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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,062	11/24/2003	Patrick W. Tandy	MCT.0046C1US (99-0200.02/	3265
7590 06/14/2005			EXAMINER	
Trop, Pruner & Hu, P.C. Suite 100 8554 Katy Freeway Houston, TX 77024			RICHARDS, N DREW	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,062

Applicant(s)

TANDY, PATRICK W.

Examiner

N. Drew Richards

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-39, 42, 47 and 50-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37-39, 42 and 50-63 is/are allowed.
- 6) ☒ Claim(s) 43-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/29/05 3/3/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 43 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is indefinite as to whether claim 43 line 2 is claiming a further support structure or whether this is claiming the same support structure recited in claim 37. It is further indefinite as to whether claim 43 is further limiting the support structure itself by saying that it is now planar or whether it is limiting the placement of the first and second bond pads by reciting that they coexist on a (single) plane.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 44 and 46 are rejected under 35 U.S.C. 102(a) as being anticipated by Haji et al. (U.S. Patent No. 5,909,633).

With regard to claim 44, Haji discloses in figure 17 and column 1, lines 13-20 and lines 50-60 an intermediate structure for an integrated circuit device. Haji discloses in

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figure 17 and column 1, lines 13-20 a first bond pad (6/4/2) comprising a gold coated (6) metal (4/2), the gold coating having a thickness of between about 0.1 and 0.5 microns.

It should be noted that 0.2 to 1.0 microns reads on the limitation of about 0.1 – 0.5 microns. Haji discloses in figure 17 and column 1 lines 13-20 a second bond pad (5/3) the second bond pad comprising a nickel coated (5) metal (3). Haji disclose in column 1 lines 55-60 the second bond pad being masked during the gold plating such that only the first bond pad is coated with gold, this anticipates the claims second bond pad being masked and without a gold coating.

With regard to claim 46, Haji discloses in column 1 lines 13-200 wherein the second bond pad comprises a nickel coated (5) copper (3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haji.

Haji teach in figure 17, the first and second bond pads being formed on different planar surfaces of the same support substrate. However, Haji figure 17 does not teach the first and second bond pads being on the same planar surface. Nonetheless, this is taught by Haji figure 16(a), which shows the first 87 and second 88 bond pads on the same planar surface. It would have been obvious to one of ordinary skill in the art to

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form the bond pads on the same planar surface to allow for bonding of multiple chips onto the same surface of a carrier board and to allow bonding by both solder bonding and wire bonding to allow great flexibility in the types of chips that can be integrated onto a single carrier board.

7. Claims 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haji as applied to claims 44 and 46 above, respectively, above, and further in view of Thomas et al. (USPAT 5625734, Thomas).

With regard to claim 45, Haji¹ discloses in figure 4, figure 9a and column 5, lines 11 – 12 wherein the first bond pad comprises a nickel coated copper. Haji¹ is silent to the metal of the first bond pad being aluminum. Thomas discloses in column 3, lines 28 – 37 a first bond pad comprising aluminum. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the bond pad comprising aluminum of Thomas for the first bond pad of Haji¹ in order to use a material that is equivalent for the purpose of a bond pad.

Allowable Subject Matter

8. Claims 37-39, 42, 50-63 are allowed.

Response to Arguments

9. Applicant's arguments with respect to claim 44 has been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Drew Richards whose telephone number is (571) 272-1736. The examiner can normally be reached on Monday-Friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



NDR



TOM THOMAS
SUPERVISORY PATENT EXAMINER